FIG. 1

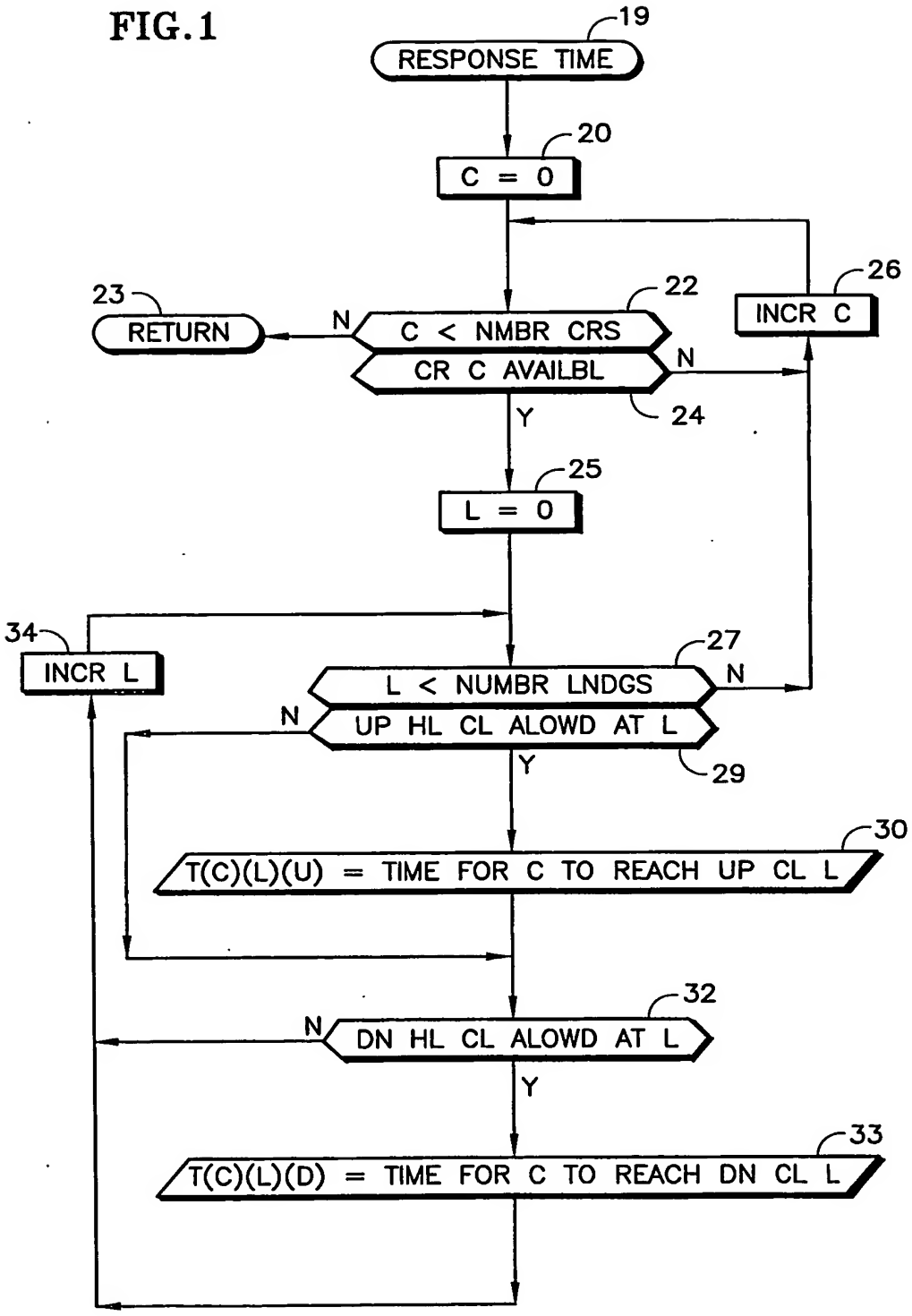

19
RESPONSE TIME
20
C = 0
23
RETURN
N
22
C < NMBR CRS
CR C AVAILBL
N
24
Y
26
INCR C
25
L = 0
34
INCR L
27
L < NUMBR LNDGS
N
N
UP HL CL ALOWD AT L
29
Y
30
T(C)(L)(U) = TIME FOR C TO REACH UP CL L
32
N
DN HL CL ALOWD AT L
Y
33
T(C)(L)(D) = TIME FOR C TO REACH DN CL L

FIG.2

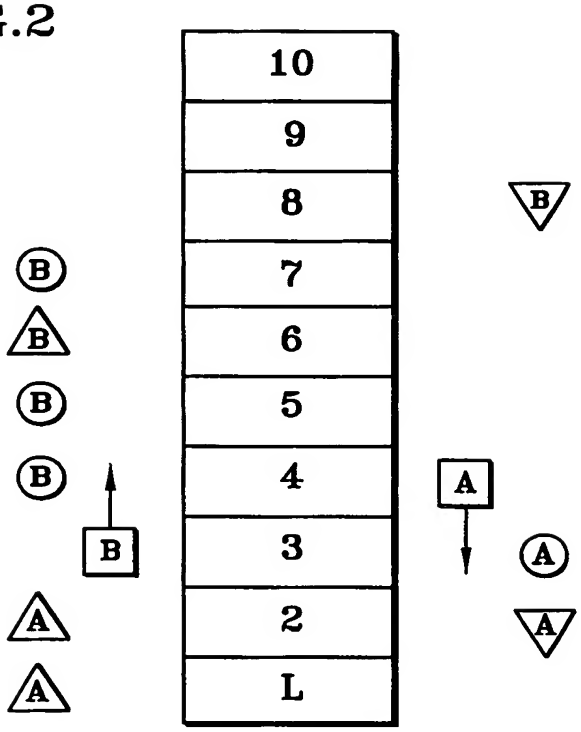

10
9
8
7
6
5
4
3
2
L
B
B
B
B
B
B
A
A
A
A
B
A
A
ELEVATOR
NO CALL, CAR MUST PASS
UP CALL, ASSIGNED
DN CALL, ASSIGNED
(NO DEMAND ABOVE L = 8)

FIG.3 CAR A

LOCATION	EXISTING DEMAND	TIME AT FLOOR	CUMULATIVE TIME
4 DN	NONE	0(CAR AT FLOOR)	0
3 DN	CC	1 SEC.+10 SEC.	11 SEC.
2 DN	CC,HC	1 SEC.+11 SEC.	23 SEC.
LOBBY	HC	1 SEC.+11 SEC.	35 SEC.
2 UP	HC	1 SEC.+11 SEC.	47 SEC.
3 UP	NONE	1 SEC.	48 SEC.
4 UP	NONE	1 SEC.	49 SEC.
5 UP	NONE	1 SEC.	50 SEC.
6 UP	NONE	1 SEC.	51 SEC.
7 UP	NONE	1 SEC.	52 SEC.
8 UP	NONE	1 SEC.	53 SEC.
9 UP	NONE	1 SEC.	54 SEC.
10 DN	NONE	1 SEC.	55 SEC.
9 DN	NONE	1 SEC.	56 SEC.
8 DN	NONE	1 SEC.	57 SEC.
7 DN	NONE	1 SEC.	58 SEC.
6 DN	NONE	1 SEC.	59 SEC.
5 DN	NONE	1 SEC.	60 SEC.

FIG.4 CAR B

LOCATION	EXISTING DEMAND	TIME AT FLOOR	CUMULATIVE TIME
3 UP	NONE	0(CAR AT FLOOR)	0
4 UP	CC	1 SEC.+10 SEC.	11 SEC.
5 UP	CC	1 SEC.+10 SEC.	22 SEC.
6 UP	HC	1 SEC.+11 SEC.	34 SEC.
7 UP	CC	1 SEC.+10 SEC.	45 SEC.
8 UP	NONE	1 SEC.	46 SEC.
9 UP	NONE	1 SEC.	47 SEC.
10 DN	NONE	1 SEC.	48 SEC.
9 DN	NONE	1 SEC.	49 SEC.
8 DN	HC	1 SEC.+11 SEC.	61 SEC.
7 DN	NONE	1 SEC.	62 SEC.
6 DN	NONE	1 SEC.	63 SEC.
5 DN	NONE	1 SEC.	64 SEC.
4 DN	NONE	1 SEC.	65 SEC.
3 DN	NONE	1 SEC.	66 SEC.
2 DN	NONE	1 SEC.	67 SEC.
LOBBY	NONE	1 SEC.	68 SEC.
2 UP	NONE	1 SEC.	69 SEC.

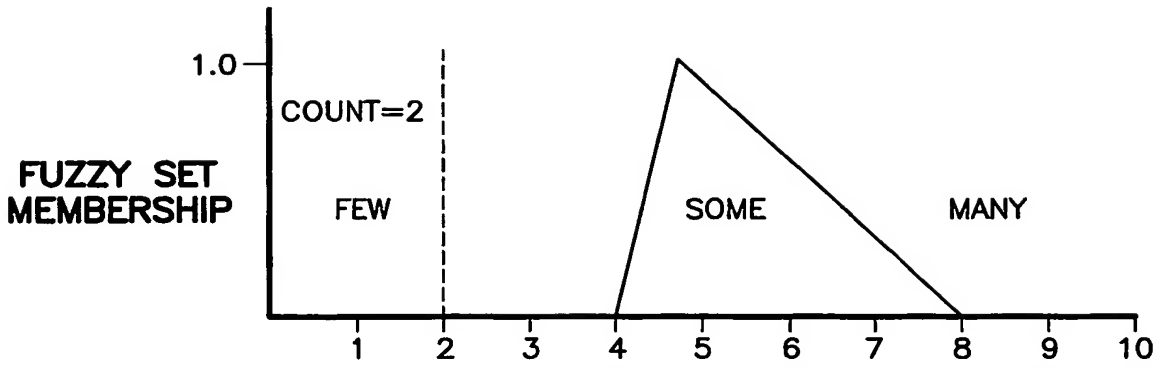
FIG.5

LOCATION	CAR A	CAR B	MINIMUM	CATEGORY
LOBY	35	68	35	2
2 UP	47	69	47	3
3 UP	48	0	0	1
4 UP	49	11	11	1
5 UP	50	22	22	1
6 UP	51	34	34	2
7 UP	52	45	45	3
8 UP	53	46	46	3
9 UP	54	47	47	3
10 DN	55	48	48	3
9 DN	56	49	49	3
8 DN	57	61	57	3
7 DN	58	62	58	3
6 DN	59	63	59	3
5 DN	60	64	60	4
4 DN	0	65	0	1
3 DN	11	66	11	1
2 DN	23	67	23	1

FIG.6

←	CATEGORY	COUNT
1	0–29 SECONDS	6
2	30–44 SECONDS	2
3	45–59 SECONDS	9
4	60–89 SECONDS	1
5	OVER 90 SECONDS	0

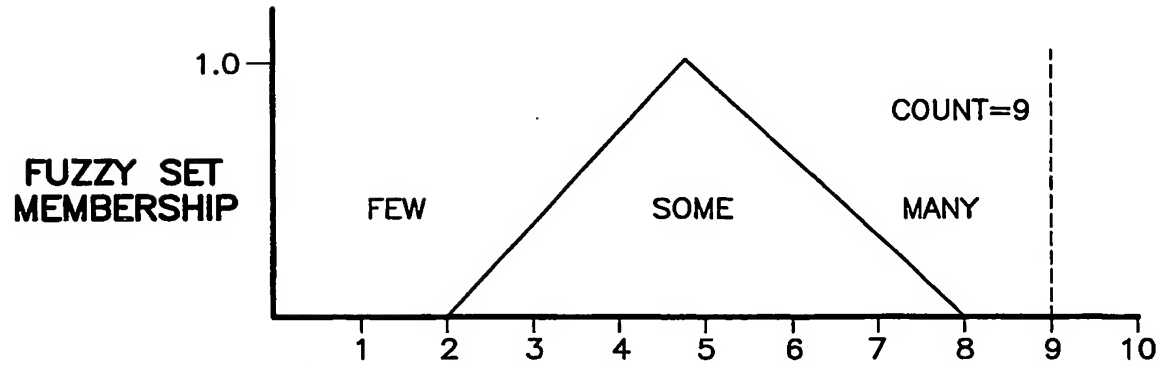
FIG.7



FUZZY SETS FOR 30–44 SECONDS, CATEGORY 2

MEMBERSHIP IN FEW SET = 100%
MEMBERSHIP IN SOME SET = 0%
MEMBERSHIP IN MANY SET = 0%

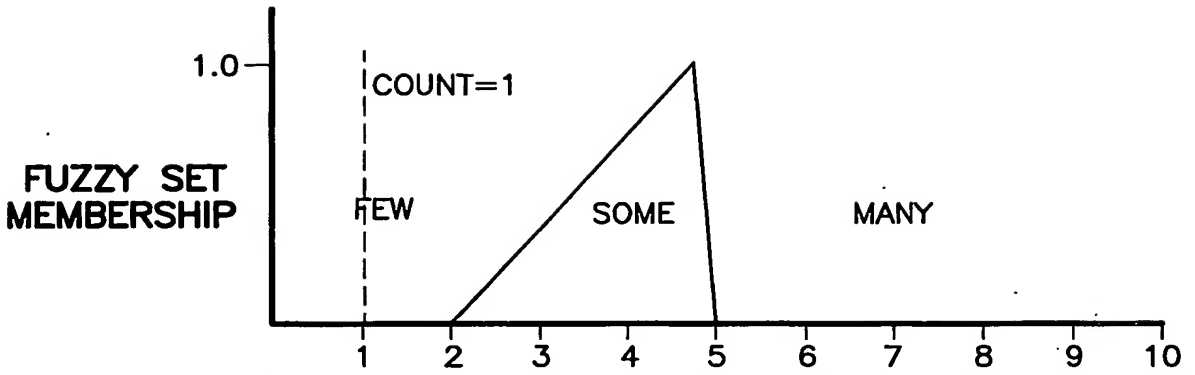
FIG.8



FUZZY SETS FOR 45–59 SECONDS, CATEGORY 3

MEMBERSHIP IN FEW SET = 0%
MEMBERSHIP IN SOME SET = 0%
MEMBERSHIP IN MANY SET = 100%

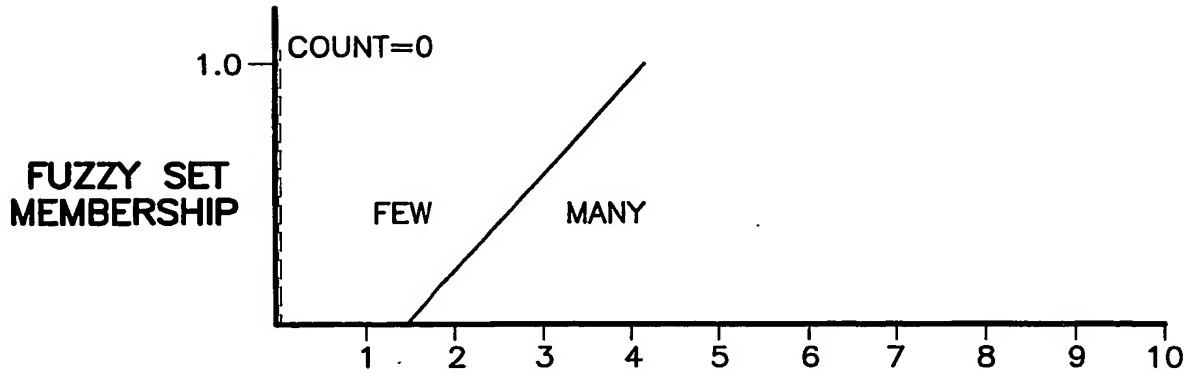
FIG.9



FUZZY SETS FOR 60–89 SECONDS, CATEGORY 4

MEMBERSHIP IN FEW SET = 100%
MEMBERSHIP IN SOME SET = 0%
MEMBERSHIP IN MANY SET = 0%

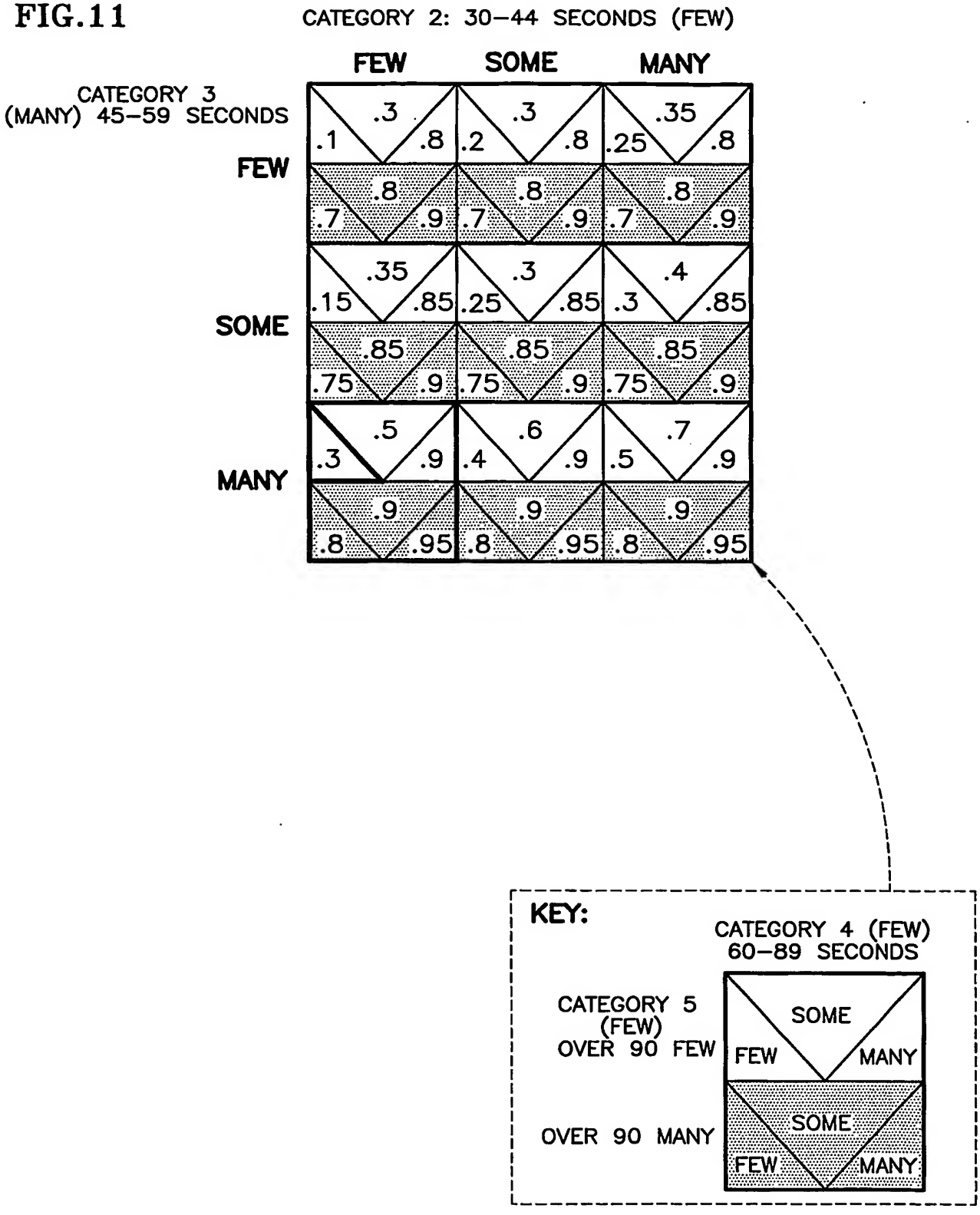
FIG.10



FUZZY SETS FOR OVER 90 SECONDS, CATEGORY 5

MEMBERSHIP IN FEW SET = 100%
MEMBERSHIP IN MANY SET = 0%

FIG.11


CATEGORY 2: 30–44 SECONDS (FEW)
FEW
SOME
MANY
CATEGORY 3
(MANY) 45–59 SECONDS
FEW
SOME
MANY
.3 .1 .8
.3 .2 .8
.35 .25 .8
.8 .7 .9
.8 .7 .9
.8 .7 .9
.35 .15 .85
.3 .25 .85
.4 .3 .85
.85 .75 .9
.85 .75 .9
.85 .75 .9
.5 .3 .9
.6 .4 .9
.7 .5 .9
.9 .8 .95
.9 .8 .95
.9 .8 .95
KEY:
CATEGORY 4 (FEW)
60–89 SECONDS
CATEGORY 5
(FEW)
OVER 90 FEW
SOME
FEW
MANY
OVER 90 MANY
SOME
FEW
MANY